

ROANOKE RIVER BASIN OUTLINE RIVER COMMITTEE

- I. Map of Roanoke River Basin
 - A. Major Watersheds of VA (1998)
 - B. DCR – Where is my watershed/Roanoke River Basin with counties
 - 1. bordered to North by James River basin, to east by Chowan, to west by New River basin, and south by NC state line
- II. List of rivers and general information
 - A. General Info
 - 1. 9,580 square miles, over 400 miles of river
 - 2. foothills of Blue Ridge Mtns to east/SE direction toward Albemarle Sound in Plymouth, NC
 - B. Reservoirs (and Dams) – used for recreation and hydroelectricity
 - 1. Smith Mountain – north, 20000 acres
 - 2. Leesville Lake – north, 3400 acres
 - 3. Kerr (Buggs Island Lake) – largest at 49,000 acres, junction of Roanoke River and NC state line
 - 4. Philpott – 2880 acres near Martinsville
 - C. Major rivers
 - 1. Roanoke (part known as Staunton River)
 - a. 410 miles, along boundaries of Montgomery, Roanoke, and Floyd county
 - b. flows through Smith Mountain Lake, Leesville, and Kerr reservoirs
 - 2. Staunton
 - a. northern and eastern border of Halifax county
 - b. merges with Dan River to form Buggs Island Lake
 - c. stretch of whitewater, popular with paddlers
 - d. very popular fishing
 - e. nationally known for striped bass hatchery
 - 3. Dan
 - a. 180 miles, major tributary of Staunton River
 - b. includes the “Grand Canyon of Virginia – Dan River gorge, rugged
 - c. popular for fishing
 - D. Major Tributaries
 - 1. Dan River
 - a. Hyco, Banister, Smith
 - 2. Roanoke (Staunton) River
 - a. Little Otter, Big Otter, Blackwater, Pigg, Falling River, Goose Creek, Tinker Creek
 - E. Smaller rivers and streams
 - 1. Lawson, Mason, Peters, Wilson, Glade, Maggodee, Gills, Sheeps, Elk, Machine, Ash Camp, Twittys, Difficult, Birch, Cherrystone, Flat, Town Fork Creeks; Cedar Run, Lick Run, Ore Branch, South Mayo River, streams - many
- III. Issues concerning rivers
 - A. Water quantity
 - 1. Drought - period of abnormally low rainfall which causes a negative flow of water (more water going out than coming in)
 - a. Effects on environment/rivers
 - 1. lower water flows/levels and higher temperatures
 - a. leads to reduction in dissolved oxygen – diseased/killed fish
 - 2. groundwater depletion
 - 3. difficult to recover
 - a. rainfall quickly intercepted by vegetation or absorbed by ground
 - b. takes extended period of sustained rainfall to bring basin out of drought conditions
 - b. Effects on society

1. Individual effects
 - a. Reductions of discharge rate from reservoirs
 1. restrictions on nonessential water use (washing cars, watering lawns, etc.)
2. Economic effects
 - a. power companies – purchase power from open market to compensate lost generation at dams
 - b. salt wedge – affects companies that need fresh water to operate, such as Weyerhaeuser paper mill
 - c. farmers – crop loss, decrease in crop quality
- c. Drought of 2002
 1. streamflows fell to under 10th percentile and set daily record lows
- d. Need for supplemental water
 1. more storage thru impoundment projects
2. Flooding – occurs approximately every seven years
 - a. Effects
 1. Ecosystem
 - a. erosion damage, kills trees/seedlings
 - b. depletes oxygen in some waters
 - c. possible overrun of sewage into rivers
 - d. conservation of land in natural state reduces damage
 2. Society
 - a. property damage, deaths
 - b. Dams
 1. Upstreams dams
 - a. effective at reducing magnitude of flooding, but increases duration of flooding during growing season
 - b. small changes may be necessary
 - c. 2003 Roanoke Flood Project
 1. channel widening 6.2 miles of Roanoke River through Roanoke City
 2. aimed at protecting city from 5, 10, and 15 year floods (possibly only limited protection for severe flooding)
 3. passed in House and waiting to be considered by Senate
3. Water withdrawals
 1. Municipalities
 - a. Virginia
 1. Danville, Martinsville, Bassett, Moneta, Rocky Mount, Brookneal, Altavista, Lawrenceville, Chatham, Roanoke, Salem, Halifax, South Boston and Clarksville (14)
 2. Virginia Beach
 - a. 76-mile pipeline running from Lake Gaston to VA Beach
 - b. created tension between VA and NC (14 year fight)
 - b. North Carolina
 1. Eden, Mayodan, Reidsville, Yanceyville, Roxboro, Henderson, Warrenton, Littleton, Roanoke Rapids, Weldon, Jackson, Rich Square, Scotland Neck, Hamilton, Jamesville, Williamston, Windsor, and Plymouth (18)
 2. Raleigh/Durham
 - a. 2000 – Section 216 Study at Kerr Dam/Reservoir - interested in using Kerr Lake for water for longterm water needs for Triangle area
 - b. expensive, long, technically challenging, strong opposition

- c. possibly withdrawing 40 to 55 million gallons of water per day (more than VA Beach withdrawals)
 - d. currently engaged in feasibility study, beginning in 2002 and expected to last three years
 - 2. Industry
 - a. Many industries find the rivers of the Roanoke basin an attractive site to build
 - 1. paper mills, wood chip mills, power plants, etc.
 - 2. create major impact on the river's resources
 - b. Example – Vepco Clover Power Plant
 - 1. sued in 2000 for pollution issues
 - 2. forced to reduce emissions that are harmful to environment
 - c. Example - Dan River water project with Dominion Generation Power Plant
 - 1. interbasin transfer – Roanoke basin would be source and discharge of water, but 75% would be lost by evaporation to another basin (Neuse River)
 - 2. caused opposition to project by Danville and Halifax county
 - 3. project rejected Feb. 2003
- B. Recreation
 - 1. Boating, paddling
 - 2. Fishing – very popular around entire basin area
 - a. Trout - Roanoke River and various creeks stocked by Dept of Game and Inland Fisheries
 - b. Striped bass, sunfish, smallmouth bass, largemouth bass, white bass, walleye, catfish, muskellunge
 - 3. Preservation
 - a. delayed harvest programs
 - 1. trout must be released Oct through May
 - 4. Private property owners
 - 1. make many trout fisheries possible
 - 2. many waters will no longer be stocked due to private property concerns along creeks
 - 3. anglers behavior can affect future access to rivers and streams
 - 4. issues with boating and docking on private property
- C. Impaired rivers/Water quality
 - 1. What are the problems
 - a. Fecal Coliform
 - 1. fecal coliform bacteria count fails or partially fails to meet requirement for swimming use
 - b. Fish Advisory - PCB
 - 1. PCBs – group of man-made chemicals which can contain up to 209 individual compounds
 - a.. no longer manufactured in US (since 1977), but still found in environment because they do not dissolve easily
 - b. used in lubricants and coolants in electrical equipment
 - c. probable cause of cancer
 - 2. Dan River (1999) – 42 mile stretch
 - a. fish sampling by Dept of Environmental Quality showed PCBs above the standard of 600 parts per billion
 - b. restrictions on channel catfish and flathead catfish
 - c. eat no more than one or two 8-ounce servings a month, none for pregnant women or children
 - 3. Staunton River (1999) – 79 mile stretch

- a. fish sampling by DEQ showed PCBs
 - b. same restrictions on 6 species
 - c. General Standard (Benthic)
 - 1. benthic – collection of organisms living on or in lake bottoms
 - 2. flat creek, town fork creek, ash camp creek, twittys creek
 - d. Low Dissolved Oxygen
 - 1. rapid decline in the oxygen content usually due to large accumulations of macroalgae can result in extensive fish deaths
 - 2. Roanoke River
- 2. Sources
 - a. Non-Point
 - 1. Urban
 - a. non-point: water runs over land and through ground, picking up pollutants and depositing them in surface waters (EPA)
 - b. nonpoint source pollution due to urban activities, such as development
 - 2. Non-Point Agriculture
 - a. nonpoint source pollution due to farming activities, such as pesticide spraying
 - b. rivers – 89.97 mi of major impact, 170.27 mi of moderate/minor impact
 - b. Point
 - 1. Municipal
 - a. point source pollution originating from municipal and industrial facilities
 - b. rivers – 8.95 mi of major impact, 21 mi of moderate/minor impact
 - 2. Kerr Dam
 - a. affecting Roanoke River
 - c. Others
 - 1. Hydromodication - 9.46 mi of major impact
 - 2. Urban runoff/Storm sewers – 22.56 mi of major impact, 33.78 mi of moderate/minor impact
 - 3. Combined sewer overflow – 20.00 mi of major impact
- 3. List of Impaired Rivers (from Roanoke River Basin Association) – also have a map
 - a. Wilson Creek, Ore Branch, Roanoke River, Glade Creek, Lick Run, Tinker Creek, Blackwater River, Maggodee Creek, Gills Creek, Pigg River, Sheeps Creek, Elk Creek, Little Otter River, Machine Creek, Big Otter River, Falling River, Ash Creek Camp, Twittys Creek, Difficult Creek, Dan River, South Mayo River, Smith River, Fall Creek, Birch Creek, Cherrystone Creek, Banister River, Flat Creek
 - b. Total of 542.40 impaired miles

IV. Organizations

- A. Roanoke River Basin Association
 - a. mission is establish and carry out a strategy for the development, use, preservation and enhancement of the resources of the Roanoke River basin in the best interest of present and future generations of Basin residents.
- B. Blue Ridge River Runners
 - a. conservation and protection of Virginia streams and rivers
- C. Biohabitats of Virginia, Inc.
- D. Blue Ridge River Runners
- E. Blue Ridge Voyagers
- F. Citizens for the Preservation of the River
 - a. to demonstrate concern with local river advocacy issues
- G. Clean Water Action
 - a. assist legislative and election campaigns at local, state, and national level
- H. Environmental Defense Fund
- I. Float Fisherman of Virginia, Inc.

- a. works to preserve and protect the rivers, streams, and waterways of Virginia while floating these important resources
 - J. Friends of the Rivers of Virginia
 - K. Friends of the Roanoke River
 - L. Historic Rivers Land Conservancy
 - M. Kerr-Buggs Island Safety Council
 - N. Lake Gaston Association
 - O. Roanoke River Partners
 - P. Rockingham Country Watershed Preservation Coalition
 - Q. Sierra Club, Virginia chapter
 - R. Southern Environmental Law Center
 - S. Virginia Audubon Center
 - T. Virginia Canals and Navigations Society
 - U. Virginia Conservation Network
 - a. advocates funding for watersheds across the state
 - V. Virginia B.A.S.S. Federation
 - W. Virginia Council of Trout, Unlimited
 - X. Virginia Lakes and Watersheds Association
- V. Scenic rivers
- A. What is a scenic river?
 - 1. river or stream whose scenic beauty, historic importance, recreational significance and natural characteristics make them resources of particular importance
 - 2. designated by state through scenic river program – Dept of Conservation and Recreation
 - B. How is a scenic river designated?
 - 1. Scenic River Program
 - a. studied by DCR's Division of Planning and Recreation Resources to determine qualification at request of local govt or General Assembly/state agencies
 - b. map survey, literature review, field study
 - 1. 11 factors: water quality, corridor development, etc.
 - c. report proposed to General Assembly
 - d. citizen advisory board created to continue citizen involvement and local govt and protect river
 - e. administrating agency designated to check river periodically (binder)
 - C. What Virginia Scenic River designation does
 - 1. Listed in binder
 - D. VA Scenic Rivers
 - 1. Appomattox River, Catoclin Creek, Chickahominy River, Goose Creek, Guest River, James River, Moormans River, North Landing Tributaries, North Meherrin River, Rappahannock River, Riva River, Shenandoah River, Staunton River
 - 2. Roanoke River Basin
 - a. Staunton River
 - 1. status includes 40.5 miles
 - 2. VA Dept of Game and Inland Fisheries oversees, administers, and monitors